REMARKS/ARGUMENTS

Claims 1 and 2 are pending herein. Claims 1 and 2 have been rewritten hereby to correct matters of form and for clarifications purposes only. Applicants respectfully submit that no new matter has been added.

1. The objection to the Title is noted, but deemed moot in view of the rewritten Title submitted herewith. Accordingly, Applicants respectfully request that the above objection be reconsidered and withdrawn.

2. The objection to the disclosure is noted, but deemed moot in view of the substitute specification paragraph submitted herewith. Accordingly, Applicants respectfully request that the above objection be reconsidered and withdrawn.

3. The §112, second paragraph rejection of claims 1 and 2 is noted, but deemed moot in view of rewritten claims 1 and 2 submitted herewith. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

4. Claims 1 and 2 were rejected under §102(b) over Takeuchi '857. Applicants respectfully traverse this rejection.

Independent claim 1 recites a method for producing a piezoelectric element comprising the steps of providing a ceramic substrate and superposing a piezoelectric material on one of the ceramic substrate and an electrode formed on the ceramic substrate. The piezoelectric material has a piezoelectric ceramic composition comprising a $PbMg_{1/3}Nb_{2/3}O_3$-$PbZrO_3$-$PbTiO_3$ ternary system solid solution composition as a main component, represented by a general formula of $Pb_x(Mg_{y/3}Nb_{2/3})_aTi_bZr_cO_3$, wherein $0.95 \leqq x \leqq 1.05$, $0.8 \leqq y \leqq 1.0$, and a, b and c are decimals in a range of (a,b,c) = (0.550, 0.425, 0.025), (0.550, 0.325, 0.125), (0.375, 0.325, 0.300), (0.100, 0.425, 0.475), (0.100, 0.475, 0.425) and (0.375, 0.425, 0.200) in coordinates having coordinate axes of the a, b and c values, wherein a+b+c = 1.00.

The piezoelectric composition also includes 0.05 to 10.0 mass% of NiO. The method also includes a step of providing a container defining a space having a volume and including an atmosphere comprising an atmosphere-controlling material having the same composition as the piezoelectric material and including 0.03 to 0.5 mg/cm^3 of NiO per unit volume of the space. Further, the method includes a step of subjecting the superposed piezoelectric material to a thermal treatment in the atmosphere.

Independent claim 2 recites a similar method for producing a piezoelectric element, but differs from claim 1 in that the superposing step involves superposing a piezoelectric material on an electrode formed on the ceramic substrate.

Applicants respectfully submit that Takeuchi '857 does not disclose a piezoelectric ceramic composition including 0.05-10 mass% NiO, as recited in independent claims 1 and 2. Although Takeuchi '857 generally discloses that the composition can include "an oxide or compound ... of nickel" (Col. 11, lines 59-62); with nickel being one of 19 possible additions, there is absolutely no disclosure that NiO is present in the composition in an amount of 0.05-10 mass%, as claimed.

Moreover, Applicants respectfully submit that Takeuchi '857 does not disclose a heat treatment atmosphere which includes an atmosphere-controlling material that is the same composition as the otherwise disclosed piezoelectric material, and which includes 0.03-0.5 mg/cm^3 NiO per unit volume of the space of the heat treatment container, as recited in independent claims 1 and 2.

For at least the foregoing reasons, Applicants respectfully submit that claims 1 and 2 define patentable subject matter over Takeuchi '857, and respectfully request that the above rejection be reconsidered and withdrawn.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

September 9, 2005
Date

Stephen P. Burr
Reg. No. 32,970

Nicole J. Buckner
Reg. No. 51,508

SPB/NB/gmh

BURR & BROWN
P.O. Box 7068
Syracuse, NY 13261-7068

Customer No.: 025191
Telephone: (315) 233-8300
Facsimile: (315) 233-8320